REMARKS

The specification has been amended to clarify the description of application Fig. 3. As originally filed, the specification provided in the sentence bridging pages 16 and 17 that "Although Fig. 3 does not indicate any supporting structure for inert-gas compound 70, some of the exemplary inert-gas compounds identified here are liquids or gases, and thus need supporting structures such as a piece of material that adsorbs or/and absorbs compound 70 or a container that holds compound 70". However, Fig. 3 illustrates inert-gas compound 70 as contacting backplate 40. Inasmuch as backplate 40 might be considered supporting structure for compound 70, the sentence bridging pages 16 and 17 has been clarified to state that "Although Fig. 3 illustrates inert-gas compound 70 as being in contact with backplate 40, some of the exemplary inert-gas compounds identified here are liquids or gases, and thus need further supporting/retaining structures such as a piece of material that adsorbs or/and absorbs compound 70 or a container that holds compound 70".

Turning to the claims, Claims 1, 6, 7, 12, 13, 17 - 21, 31, 35, and 39 have been amended. The revisions to independent Claims 1, 13, 31, and 39 are discussed below. The revisions to the remaining amended claims, all dependent claims, have been made to conform with the revisions to Claims 1, 13, 31, and 39. Claims 22 - 24 have been canceled. New independent Claim 61 has been added. Consequently, Claims 1 - 21 and 25 - 61 are now pending.

Claims 1 - 8, 10 - 16, 25, 27, and 29 - 48 have been rejected under 35 USC 103 as obvious based on Cho et al. ("Cho"), U.S. Patent 5,977,706, in view of Konuma, U.S. Patent 6,042,441, and Rakhimov et al. ("Rakhimov"), U.S. Patent 6,005,343. This rejection is respectfully traversed in view of the revisions to the claims.

The relevant disclosures of Cho, Konuma, and Rakhimov were summarized in the 21 October 2003 Amendment. For the convenience of the Examiner, the summaries of Cho, Konuma, and Rakhimov are repeated below:

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> Cho discloses various flat-panel displays provided with getters. Each display has baseplate structure 40 and transparent faceplate structure 42 coupled together through outer wall 44 or 110 to form a sealed enclosure. Each display may have a getter situated inside the sealed enclosure formed with components 40, 42, and 44 or 110 as illustrated for getter 50 shown in the flat-panel-display embodiment of Fig. 4h. Alternatively, components 40, 42, and 44 or 110 may

form main compartment 70 with a getter situated in auxiliary compartment 72 connected to main compartment 70 as illustrated for getter 74 in the flat-panel-display embodiment of Figs. 7a and 7b (collectively "Fig. 7").

At col. 9, Cho indicates that the flat-panel display of Fig. 4h can be any of a number of different types of flat-panel displays such as a high-vacuum cathode-ray tube ("CRT") display, a reduced-pressure plasma display, or a reduced-pressure plasma-addressed liquid-crystal display. For a high-vacuum flat-panel CRT display that operates according to field-emission principles, Cho discloses at cols. 9 and 10 that the display of Fig. 4h has a group of laterally separated electron-emissive elements situated over the baseplate to form a field-emission cathode. Cho specifies at col. 16 that the flat-panel display of Fig. 7 "is provided with light-emissive elements as described above". Hence, the high-vacuum flat-panel display of Fig. 7 can be provided with a group of laterally separated electron-emissive elements situated over the baseplate.

Cho does not indicate how the display of Fig. 4h is internally configured when it is implemented as a plasma display or a plasma-addressed liquid-crystal display. However, Cho specifies at col. 25 that a getter analogous to getter 74 can be situated in an auxiliary compartment of a reduced-pressure plasma or plasma-addressed liquid-crystal display in which the plasma is formed from inert gas. Cho provides that the inert gas is typically one or more of helium, neon, argon, xenon, and krypton and that the pressure in the main and auxiliary compartments is 1 torr - 0.5 atm, i.e., 1 - 380 torr since 1 atm equals 760 torr.

Konuma discloses a process for cleaning a deflected-beam CRT display prior to display sealing. Fig. 8 of Konuma illustrates its display. In Konuma's cleaning process, getter 3 situated inside the unsealed CRT display is heated to activate getter 3 and cause it to release (emit) gas, including argon and helium. At col. 5, Konuma states that "the sum of" the partial pressures, including those of argon and helium, reaches 10^{-8} - 10^{-6} torr during the getter heating step.

Konuma subsequently operates its CRT display, apparently at the same time that the display undergoes evacuation in preparation for closing tip tube 4 to hermetically seal the display. Cathode 2 emits electrons, some of which strike the atoms of argon and helium and cause those atoms to ionize. Some of the resultant positive argon and helium ions return to cathode 2 to clean it by a sputtering action. The display evacuation procedure is continued until the argon partial pressure drops to 10^{-8} torr or less at which point tip tube 4 is closed to seal the display.

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Rakhimov discloses a lamp suitable for use as a backlight in a liquid-crystal display. The lamp includes a backplate (unlabelled) and transparent frontplate 11 coupled together through an outer wall (unlabelled) to form sealed enclosure (envelope) 12. Cathode 14, grid 16, transparent conductive layer 18,

and phosphor layer 20 are situated inside enclosure 12. Conductive layer 18 is situated between, and in contact with, phosphor layer 20 and frontplate 11. Cathode 14 lies between the backplate and phosphor layer 11 [sic, 20]. Grid 16 is situated between, and spaced apart from, cathode 14 and phosphor layer 20.

> A plasma formed from working gas 22 is present in enclosure 12 at a pressure of 0.1 - 100 torr. Rakhimov specifies that working gas 22 may be an inert gas such as helium, neon, argon, xenon, or a mixture of these four gases.
>
> During operation of Rakhimov's lamp, electrons emitted by cathode 14 pass through grid 16 traveling toward phosphor layer 20. Some of the electrons strike atoms of working gas 22 and cause them to ionize. Resultant positive inert-gas ions travel backward toward cathode 14 and cause it to emit secondary electrons. Upon being struck by electrons or/and ultraviolet ("UV") light emitted by the plasma, phosphor layer 20 emits light that passes through frontplate 11.

As a preliminary matter, it appears that the Examiner has misinterpreted certain of the remarks previously made by Applicants' Attorney in regard to Cho. With regard to the 21 October 2003 Amendment, the Examiner alleges on page 6 of the Office Action that "At the paragraph at the bottom of page 16 or the remarks, applicant argues that Cho specifies a high vacuum for his field emission type flat CRT display and nowhere indicates or suggests a partial pressure of $5x10^{-7}$ torr or more" and that "In fact, Cho defines a high vacuum as less than 10^{-2} torr, typically 10^{-6} torr, each of which are more than $5x10^{-7}$ torr". However, Applicants' Attorney never argued at the indicated place or elsewhere that Cho fails to disclose the internal pressure in any of Cho's flat-panel cathode-ray tube ("CRT") display as being 5×10^{-7} torr or more after display sealing.

Instead, Applicants' Attorney pointed out in the last paragraph on page 16 of the 21 October 2003 Amendment that none of Cho's (hermetically sealed) flat-panel CRT displays is disclosed as containing <u>inert gas</u> at a partial pressure of 5×10^{-7} torr or more. Cho discloses in multiple places that the total internal pressure, i.e., the sum of the partial pressures of all the gases (both inert and non-inert), in Cho's flat-panel CRT displays is typically 10^{-6} torr but can be as high as 10^{-2} torr. For instance, see (a) col. 12, lines 47 - 49, combined with other material at cols. 12 - 16 and (b) col. 18, lines 59 - 64, combined with other material at cols. 18 and 19. In alleging that "At the paragraph at the bottom of page 16 or the remarks, applicant argues that Cho specifies a high vacuum for his field emission type flat CRT display and nowhere indicates or suggests a partial pressure of $5x10^{-7}$ torr or more" and that "In fact, Cho defines a high vacuum as less than 10^{-2} torr, typically 10^{-6} torr, each of which

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are more than $5x10^{-7}$ torr", the Examiner appears to have mixed up inert-gas partial pressure with total internal pressure.

As provided in Weast, CRC Handbook of Chemistry and Physics (65th ed., CRC Press), 1984, page F-157, copy enclosed, atmospheric air has substantially the following volumetric constituency in terms of volumetric percentage and corresponding volumetric parts-per-million ("PPM") content:

Table I. Volumetric Constituency of Atmospheric Air

Constituent		Volumetric Percentage (%)	Volumetric PPM Content
Nitrogen	(N_2)	78.084	780,840
Oxygen	(O_2)	20.946	209,460
Carbon dioxide	(CO_2)	0.033	330
Argon	(Ar)	0.934	9,340
Neon	(Ne)	0.0018	18
Helium	(He)	0.0005	5
Krypton	(Kr)	0.0001	1
Xenon	(Xe)	0.00001	0.1
Hydrogen	(H_2)	0.00005	0.5
Methane	(CH_4)	0.0002	2
Nitrous oxide	(N_2O)	0.00005	1.5

The standard deviations in the various volumetric percentages and PPM contents have, for convenience, been deleted in Table I since the standard deviations are not relevant to the present matter.

Table I shows that argon is, by far, the most prevalent of the six inert gases helium, neon, argon, krypton, xenon, and radon in the earth's atmosphere. Argon constitutes nearly 1% of air by volume. The next most prevalent of the inert gases is neon which constitutes less than 0.002% of air by volume. Radon forms so low a volumetric percentage of air that radon is not listed in Weast and thus is not listed in Table I. The volumetric percentage of radon in air is presumably less than 0.0001% and, more likely, presumably less than 0.00001%.

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The ideal gas law is:

$$PV = nRT \quad (1)$$

where P is pressure, V is volume, and n is number of moles, R is the gas constant, and T is temperature. Let v_i represent the volumetric percentage of a particular gas, such as an inert gas, present in a chamber containing air. Using the ideal gas law, the number n_i of moles of the particular gas in the chamber is given as:

$$n_i = v_i n_{tot} \quad (2)$$

where n_{tot} is the total number of moles of air in the chamber. Similarly, the partial pressure P_i of the particular gas in the chamber is given as:

$$P_i = v_i P_{tot} \quad (3)$$

where P_{tot} is the total pressure in the chamber.

Independent Claims 1 and 31 have each been amended to delete argon as one of the recited candidate inert gases present in the sealed enclosure of the claimed flat-panel CRT display. The remaining candidate inert gases recited in Claims 1 and 31 are helium, neon, krypton, xenon, and radon. As amended, Claims 1 and 31 each specifically recite that the inert gas in the sealed enclosure consists "of at least one of (a) helium at a partial pressure of at least 2×10^{-5} torr and (b) at least one of neon, krypton, xenon, and radon at a partial pressure of at least 5×10^{-7} torr".

An important feature of each of Claims 1 and 31 is that the amount of inert gas in the open space of the sealed enclosure, as represented by the partial pressure(s) of the inert gas(es) in the sealed enclosure, is <u>much greater</u> than what would naturally occur by simply pumping the sealed enclosure downward starting from atmospheric conditions. The high level of inert gas in the sealed enclosure enables the laterally separated electron-emissive regions in the display of each of Claims 1 and 31 to undergo <u>strong</u> (self) cleaning when the

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electron-emissive regions are operated <u>after</u> the display is sealed. This post-sealing cleaning capability is a major facet and advantage of the present invention.

The enclosure formed by backplate structure 40, faceplate structure 42, and outer wall 44 or 110 in each of Cho's flat-panel CRT displays is at atmospheric condition, i.e., air at a pressure of approximately 760 torr (1 atm.), prior to display sealing/evacuation. Using Table I, the volumetric percentage v_i for each of helium, neon, krypton, xenon, and argon in the enclosure of each of Cho's flat-panel CRT displays prior to display sealing and evacuation is:

<u>II. Volumetric Constituency of Non-argon Inert Gases in Air</u>

Inert Gas	Volumetric Percentage v_i (%)
Helium	0.0005
Neon	0.0018
Krypton	0.0001
Xenon	0.00001
Radon	0

where "0" is given here as the v_i value for radon because it is not listed in Weast as a constituent of atmospheric air and thus presumably has a v_i value less than 0.0001% and more likely less than 0.00001%.

Cho discloses two basic ways of sealing its flat-panel CRT displays. In one of the sealing techniques, a flat-panel CRT display is sealed by gap jumping while the display is in a vacuum chamber pumped from atmospheric room pressure down to a pressure no greater than 10^{-2} torr, typically 10^{-6} torr or lower. See cols. 12 - 16, particularly col. 12, lines 47 - 49, cited by the Examiner. After display sealing is completed, the pressure in the sealed enclosure of Cho's flat-panel CRT display is therefore approximately the chamber pressure, i.e., a maximum of 10^{-2} torr.

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Consider what happens when the vacuum chamber used in Cho's first sealing technique is pumped from room pressure (760 torr) in air down to a final maximum total chamber pressure P_{totf} of 10^{-2} torr. Assuming, as a first-order approximation, that volumetric percentage v_i stays roughly constant for each of the inert gases helium, neon, krypton, xenon, and radon as the chamber pressure is pumped down to the P_{totf} value of 10^{-2} torr, the final

partial pressure P_{imaxf} for each of helium, neon, krypton, xenon, and radon is approximately as given in the following table:

III. Partial Pressure of Non-argon Inert Gases in Sealed Enclosure of Flat-panel CRT Display

Inert Gas	Maximum Final Partial Pressure P_{imaxf} (torr) in Cho	Maximum Partial Pressure (torr) Recited in Claims 1 and 31
Helium	1.8×10^{-7}	2×10^{-5}
Neon	5×10^{-8}	5×10^{-7}
Krypton	1×10^{-8}	5×10^{-7}
Xenon	1×10^{-9}	5×10^{-7}
Radon	$< 1\times10^{-8}$	5×10^{-7}

For convenience, Table III also presents the minimum partial pressure values recited in Claims 1 and 31 for each of helium, neon, krypton, xenon, and radon.

As Table III shows, the minimum partial pressure recited in each of Claims 1 and 31 for each inert gas helium, neon, krypton, xenon, or radon is much greater, at least an order of magnitude (factor of 10) greater, than the maximum partial pressure which would arise for that inert gas helium, neon, krypton, xenon, or radon in Cho by pumping Cho's vacuum chamber from room pressure in air down to 10^{-2} torr so as to produce 10^{-2} torr of total gas in the sealed enclosure of Cho's display.

None of the minimum inert-gas partial pressures recited in Claim 1 or 31 could reasonably arise in any of Cho's flat-panel CRT display as a result of using Cho's first sealing technique to produce a maximum internal pressure of 10^{-2} torr in that display. Because the partial pressures of the inert gases present in Cho's flat-panel CRT display after display sealing according to Cho's first technique are much lower than the corresponding inert-gas partial pressures recited in Claims 1 and 31, the electron-emissive regions in Cho's display are highly unlikely to undergo strong cleaning of the nature that arises from operating the electron-emissive regions in the flat-panel CRT display of Claim 1 or 31 in the presence of comparatively high inert-gas partial pressures recited in Claims 1 and 31.

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Cho's other sealing/evacuation technique entails sealing a flat-panel CRT display at a pressure close to room pressure in a suitable neutral (non-reactive) environment, pumping gas out of the display's enclosure by way of an appropriate port provided on the display, and closing the port to complete the display sealing process. See cols. 18 - 19, specifically col. 19, lines 24 - 35, where Cho discloses that the neutral environment used for sealing the display typically consists of nitrogen or argon. Cho specifies at col. 18, lines 59 - 64, that the display's enclosure is reduced to a pressure "no greater than 10^{-2} torr, again, typically 10^{-6} torr or less" during the sealing operation. The pressure in the display's sealed enclosure is again a maximum of 10^{-2} torr.

Because Cho's second technique for sealing a flat-panel CRT display begins with the display situated in a non-reactive environment (nitrogen or argon), the post-sealing partial pressures of the inert gases helium, neon, krypton, xenon, and radon in the sealed enclosure of the display are respectively likely to be different in Cho's second sealing technique than in Cho's first sealing technique at the same total post-sealing pressure in the sealed enclosure. However, the post-sealing partial pressures that occur with helium, neon, krypton, xenon, and radon in Cho's second sealing technique are <u>highly unlikely</u> to be so different from the post-sealing partial pressures for helium, neon, krypton, xenon, and radon in Cho's first sealing technique as to result in any significant amount of cleaning of Cho's electron-emissive regions by operating the electron-emissive regions subsequent to display sealing. Hence, Cho does <u>not</u> teach the key feature of the present invention that the comparatively high partial pressures of the inert gases recited in Claims 1 and 31 enable the electron-emissive regions of the claimed flat-panel CRT displays to undergo strong cleaning during display operation subsequent to display sealing.

In attempting to combine Cho with Rakhimov and Konuma, the Examiner alleges on page 3 of the Office Action that "Rakhimov, column 3, lines 21-25, column 3, line 64 through column 4, line 10 and column 4, lines 35-38, teaches a field emission display having partial pressures of helium and argon that are much higher, e.g. in the plasma display device range". With regard to the Examiner's use of the term "field emission display", a "field-emission display" is a flat-panel CRT display whose electron-emissive elements emit electrons according to field emission. While Rakhimov does teach a structure having an enclosure (envelope 12) containing inert gas at a pressure of 0.1 - 100 torr as specified at col. 3, lines 21 - 25, the Examiner's allegation that Rakhimov teaches a "field emission display" is

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incorrect. Instead, Rakhimov's structure is, as indicated by Rakhimov's title, a high-intensity lamp.

The Examiner continues this incorrect train of thought with the further allegations on pages 3 and 4 of the Office Action that

> The difference between the typical field emission display of Cho and that of a field emission display having a higher gas pressure is that the cathodes must be more resistant to damage by sputtering caused by ion bombardment. See Rakhimov, column 2, lines 53-59. Thus, when the emitters are Chosen to be of a material more resistant to ion bombardment makes it clearly obvious that pressures in the higher range are permissible in a field emission display of the fiat panel type as long as an emitter that is resistant to ion bombardment is selected. The ability to employ higher pressures in a field emission type device as taught by Rakhimov allows for a lighter construction since allowance for high vacuum loads is not required. Therefore, the specific choice of an emitter material resistant to ion bombardment, and a suitable final partial pressure of the helium and argon corresponding to the partial pressures herein claimed, would have involved an obvious optimization of the Cho device base upon the specific requirements of the designer since the pressures are within the range taught by Cho and Rakhimov.

Once again, Rakhimov's structure is a lamp, not a field-emission display or any other type of display.

In response to remarks presented in the 21 October 2003 Amendment, the Examiner similarly incorrectly alleges on page 7 of the Office Action that:

> Applicants argument that Konuma and Rakhimov are each directed to field emission devices that employ only one cathode and thus are not relevant to the field emission flat panel type CRT having an array of laterally separated cathodes as taught by Cho is also not well taken. Each of Konuma and Rakhimov are indicative of the fact that the reason for degradation of the cathodes in a field emission type display is due to erosive damage caused by ion beam sputtering of the of the cathodes as well as to contamination by harmful gases.

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Applicants' Attorney never described, or in any way characterized, Rakhimov's structure as a "field emission display".

Rakhimov does not state, or in any way disclose, that the presence of inert gas in Rakhimov's lamp helps keep the lamp's cathode clean. Although it is possible that the

presence of inert gas in Rakhimov's lamp could help clean the cathode during lamp operation, it is also possible that the cathode in Rakhimov's lamp is not of such a nature as to undergo strong cleaning due to the presence of inert gas in the lamp's sealed enclosure during lamp operation. In any event, Rakhimov does not teach the important cleaning facet of Claims 1 and 31, i.e., that the presence of inert gas at the recited comparatively high partial pressures enables the laterally separated electron-emissive regions to undergo cleaning during operation after display sealing.

Konuma deals with cleaning a flat-panel CRT display prior to display sealing. Claims 1 and 31 are each directed to a "hermetically" sealed flat-panel CRT display and, insofar as comparatively high partial pressures of inert gas inside the sealed display enable the display to be cleaned, cleaning the display after display sealing. The lowest minimum inert-gas partial pressure in each of Claims 1 and 31 is 5×10^{-7} torr.

The sum of the partial pressures of the inert gases argon and helium in Konuma's display may be greater than 5×10^{-7} torr during display cleaning prior to display sealing. However, nothing in Konuma discloses, or in any way suggests, that the partial pressure of all the inert gas in Konuma's display would be greater than 5×10^{-7} torr after display sealing. Although Konuma does not indicate the partial pressure of helium present in the sealed enclosure after display sealing, Konuma specifies at col. 5, lines 44 - 48, that the display is sealed after the argon partial pressure is 10^{-8} torr or less.

Konuma further specifies at col. 5, lines 49 - 51, that the getter in Konuma's display causes the pressure of the remaining gas inside the display to be further reduced subsequent to display sealing. Hence, it is clear that the total partial pressure of inert gas in Konuma's display is less than 5×10^{-7} torr subsequent to display sealing. As with Cho and Rakhimov, Konuma fails to teach the key feature of the invention of each of Claims 1 and 31 that the presence of a suitably high level of inert gas formed with one or more of helium, neon, krypton, xenon, and radon enables the electron-emissive regions in the claimed flat-panel CRT display to undergo self cleaning during operation of the electron-emissive elements subsequent to display sealing.

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With respect to Konuma, the Examiner alleges in the paragraph bridging pages 6 and 7 of the Office Action that "Applicant has not shown why Konuma would not have taught one of ordinary skill in the art that the cleaning steps that take place after sealing in the

primary references would have involved the same residual gases". What the Examiner means by this allegation is unclear to Applicants' Attorney. Nonetheless, the remaining inert gas in the open space of the sealed enclosure of Konuma's display subsequent to display sealing clearly appears to be at a partial pressure too low to achieve significant cleaning during display operation.

In any case, none of the three references applied against Claims 1 and 31 teaches the key feature of the invention of those two claims that the comparatively high partial pressures of the candidate inert gases helium, neon, krypton, xenon, and radon in the sealed enclosures of the recited flat-panel CRT displays enable the displays to undergo strong cleaning during display operation after display sealing. Consequently, 1 and 31 are patentable over Cho, Rakhimov, and Konuma.

Claims 2 - 8 and 10 - 12 all depend (directly or indirectly) from Claim 1. Claims 32 - 38 and 47 all depend (directly or indirectly) from Claim 31. Dependent Claims 2 - 8, 10 - 12, 32 - 38, and 47 are thereby allowable over Cho, Rakhimov, and Konuma for the same reasons as Claims 1 and 31.

Independent Claim 13 has been amended to include the further limitation of the previous version of dependent Claim 17. For simplicity, the recitation in the prior versions of Claims 13 and 17 that the claimed structure includes "a reservoir for supplying further inert gas to the open space of the sealed enclosure" and that "the reservoir comprises a container that encloses inert gas, the container having a wall through which inert gas passes from the container to the open space of the sealed enclosure" had been compressed into the limitation of amended Claim 13 that the claimed structure includes "a container that encloses inert gas, the container having a wall through which further inert gas passes from the container to the open space of the sealed enclosure". As an examination of the previous versions of Claims 13 and 17 shows, this revised limitation shortens the wording and makes Claim 13 clearer but does not cause Claim 13 to differ significantly in scope from the previous version of Claim 17.

Claim 17 has been indicated as being allowable if rewritten in independent form. Since Claim 13 now substantially constitutes Claim 17 rewritten in independent form, Claim 13 is allowable.

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Claims 14 - 16, 25, 27, 29, and 30 all depend (directly or indirectly) from Claim 13. Hence, dependent Claims 14 - 16, 25, 27, 29, and 30 are also allowable.

Claims 18 - 21, which previously depended from Claim 17, have been indicated as being allowable if rewritten independent form. Dependent Claims 18 - 21 have been amended to depend from Claim 13. Since Claim 13 is allowable, Claims 18 - 21 are also allowable.

Independent Claim 39, the method counterpart of structure Claim 13, has likewise been revised to include the further limitation of the previous version of Claim 17. Similar to how Claim 13 has been revised, the recitations in the prior versions of Claims 39 and 17 that "the open space of the sealed enclosure" is supplied "with further inert gas" and that "the reservoir comprises a container that encloses inert gas, the container having a wall through which inert gas passes from the container to the open space of the sealed enclosure" have been compressed into the limitation of amended Claim 39 that "the open space of the sealed enclosure" is supplied "with further inert gas from a container having a wall through which the further inert gas passes from the container to the open space of the sealed enclosure".

Claim 39, as amended, includes substantially all the limitations of amended Claim 13. Since (a) the prior version of Claim 13 was indicated as being allowable if rewritten in independent form, (b) the prior version of Claim 17 depended from the prior version of Claim 13, and (c) amended Claim 39 includes substantially all the limitations of amended Claim 13, Claim 39 should be allowable.

Claim 40 - 46 and 48 all depend (directly or indirectly) from Claim 39. Dependent Claims 40 - 46 and 48 should thus be allowable.

Claims 9 and 26 have been rejected under 35 USC 103(a) as obvious based on based on Wallace et al. ("Wallace"), U.S. Patent 5,520,563, in view of Cho, Konuma, and Rakhimov. This rejection is respectfully traversed.

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Wallace discloses an anode plate (light-emitting device) for a flat-panel field-emission display. The anode plate contains getter material 52 situated on electrically insulating material 50 located between transparent electrical conductors 46 covered by light-emissive phosphor regions 48.

Claim 9 depends from Claim 1 by way of Claim 8. Nothing in Wallace teaches the facet of the invention of Claim 1 that the comparatively high partial pressures of the inert gases helium, neon, krypton, xenon, and radon in the sealed enclosure of the claimed flat-panel CRT display enable the display to be strongly cleaned by operating the display subsequent to display sealing. Since none of Cho, Rakhimov, and Konuma teach this facet of the invention of Claim 1, Claim 9 is patentable over Cho, Rakhimov, Konuma, and Wallace for the same reasons that Claim 1 is patentable over Cho, Rakhimov, and Konuma.

Claim 26 depends from Claim 13 by way of Claim 25. As mentioned above, Claim 13 has been placed in allowable form by rewriting Claim 13 to substantially include the further limitation of Claim 17 indicated as being allowable if rewritten in independent form. Hence, Claim 26 is now allowable.

Furthermore, Claims 9 and 26 each recite that a getter is distributed across the active electron-emissive portion of the electron-emitting device of the claimed structure. Wallace, however, discloses that getter 52 is distributed across the anode plate, i.e., the light-emitting device, of the indicated field-emission display. Wallace does not teach a getter distributed across the active electron-emitting portion of the electron-emitting device of a flat-panel CRT display. In other words, Wallace fails to teach the further limitation of Claim 9 or 26. Accordingly, Claims 9 and 26 are separately allowable over Cho, Rakhimov, Konuma, and Wallace.

Claim 22 has been indicated as being allowable if rewritten in independent form. New independent Claim 61 constitutes dependent Claim 22 rewritten in independent form. Hence, Claim 61 is allowable.

The cover page of the Office Action provides that Claim 28 is rejected. However, the detailed portion of the Office Action does not present any reason for rejecting Claim 28. In any event, Claim 28 depends from Claim 13. Dependent Claim 28 is thus allowable for the same reasons as Claim 13.

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The allowance of Claims 49 - 60 is noted.

In summary, Claims 1 - 12, 31 - 38, and 47 have been shown to be allowable over the applied art. Claims 13 - 21, 25 - 27, 29, 30, 39 - 46, and 48 have been amended so as to be allowable. Claim 28 depends from allowable Claim 13 and is therefore also allowable. New Claim 61, which substantially constitutes canceled dependent Claim 22 rewritten in

independent form, is allowable since Claim 22 was indicated as containing allowable subject matter. Accordingly, Claims 1 - 21, 25 - 48, and 61 should be allowed along with already allowed Claims 49 - 60 so that the application may proceed to issue.

Please telephone Attorney for Applicant(s) at 650-964-9767 if there are any questions.

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Angular Radius of Halos and Rainbows

Coronae due to small water drops	1° to 10°
Small halo, due to 60° angles of ice crystals	22°
Large halo, due to 90° angles of ice crystals	46°
Rainbow, primary	41°20′
Rainbow, secondary	52°15′

Solar Constant

The energy falling on one sq. cm. area at normal incidence, outside the earth's atmosphere, at the mean distance of the earth from the sun equals 2.00 small calories per minute. This value varies ±2%.

COMPONENTS OF ATMOSPHERIC AIR

(Exclusive of water vapor)

Constituent	Content (per cent) by volume	Content (ppm) by volume
N_2	78.084±0.004	—
O_2	20.946±0.002	—
CO_2	0.033±0.001	—
Ar	0.934±0.001	—
Ne	—	18.18 ±0.04
He	—	5.24 ±0.004
Kr	—	1.14 ±0.01
Xe	—	0.087±0.001
H_2	—	0.5
CH_4	—	2
N_2O	—	0.5 ±0.1

MEAN FREE PATH OF GASES

t = 20°C for data at pressures below 760mm Hg
t = 0°C for data at 760mm Hg

Gas	Pressure: 1 mm Hg	0.1 mm Hg	0.01 mm Hg	0.001 mm Hg	760 mm Hg
Argon	4.73×10^{-5}m	4.73×10^{-4}m	4.73×10^{-3}m	4.73×10^{-2}	6.20×10^{-8}m
Helium	13.32	13.32	13.32	13.32	13.32
Hydrogen	8.81	8.81	8.81	8.81	8.81
Krypton	3.63	3.63	3.63	3.63	3.63
Neon	9.4	9.4	9.4	9.4	9.4
Nitrogen	4.5	4.5	4.5	4.5	
Oxygen	4.82	4.82	4.82	4.82	6.33
Xenon	2.62	2.62	2.62	2.62	

Gas	Collision frequency 20°C	Molecular diameter, cm: From viscosity	From van der Waal's equation	From heat conductivity
Ammonia	9150×10^{6}	2.97×10^{-8}	3.08×10^{-8}	—
Argon	4000	2.88	2.94	2.86×10^{-8}
Carbon monoxide	5100	3.19	3.12	—
Carbon dioxide	6120	3.34	3.23	3.40
Helium	4540	1.90	2.65	2.30
Hydrogen	10060	2.40	2.34	2.32
Krypton	—	—	(3.69)	3.14
Mercury	—	—	3.01	—
Nitrogen	5070	3.15	3.15	3.53
Oxygen	4430	2.98	2.92	—
Xenon	—	—	4.02	3.42

Weast, CRC Handbook of Chemistry and Physics (65th ed., CRC Press), 1984